YUGANOV, Ye.M.; KRYLOV, Yu.V.; KUZNETSOV, V.S.

Some problems of the development of an optimal acoustic environment for a manned space cabin. Izv. AN SSSR. Ser. biol. 31 no.1:14-20 Ja-F '66. (MIRA 19:1)

1. Submitted July 26, 1965.

L 14264-66 EWT(1)/FS(v)-3 SCIB DD/HD

ACC NR: AT6003845 SOURCE CODE: UR/2865/65/004/000/0102/0106

AUTHOR: Krylov, Yu. V.

46
B+1

ORG: none

2,44

TITLE: Peculiarities of human auditory sensitivity under conditions of continuous and prolonged exposure to medium intensity noise

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 102-106

TOPIC TAGS: life support system, audition, test chamber, acoustic biologic effect, cosmonaut, spacecraft capsule environment

ABSTRACT: During spaceflight various life-support systems such as ventilators generate constant noise. Under certain conditions, this noise factor can be expected to have an unfavorable effect on cosmonauts. To test this possibility, the auditory sensitivity was studied in 8 subjects kept in a small hermetic chamber for 27—60 days. These subjects were exposed to constant noise with a maximum intensity of 60—65 db (800—1800 cps) and minimum intensity of 4—5 db (one octave higher). Hearing tests were con-

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ducted with an AU-5 audiometer and a telephone located in the chamber. Audio thresholds were determined at 125, 250, 500, 1000, 3000, and 8000 cps. At the end of the experiment, hearing sensitivity was determined until full audio restoration. In all, 350 hearing tests were conducted. Fig. 1 shows some results of this experiment.

Hearing thresholds were characterized by the following stages during the experiment. During the first stage, there was a maximum increase in hearing sensitivity especially during the first day. This is attributed to the so-called disguising or concealing effect of noise. An increase in the hearing threshold depends upon changes in noise characteristics. Since the frequency and amplitude of noise varied, the disguising effect could not decrease. Thus, an increase in hearing sensitivity can be explained not only as the result of adaptive changes in the auditory analyzer, but also as the total reaction of the subject to the novelty of the experimental conditions.

L 14264-66
ACC NR: AT6003845

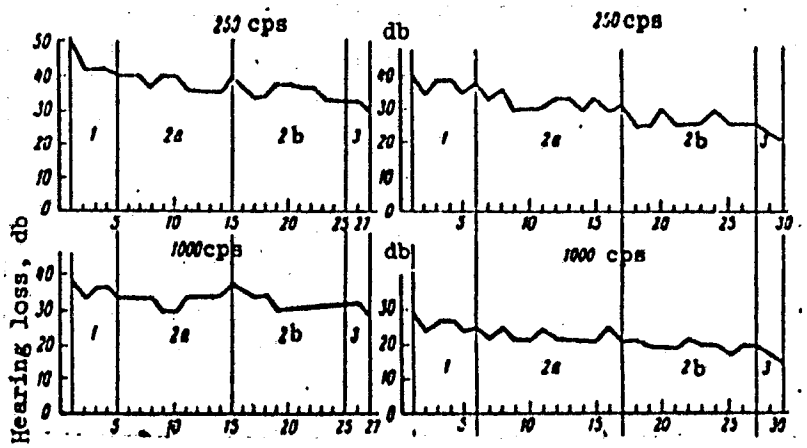

Fig. 1. Dynamics of hearing sensitivity at frequencies of 250, 1000, and 3000 cps during prolonged isolation in a small chamber under conditions of constant noise

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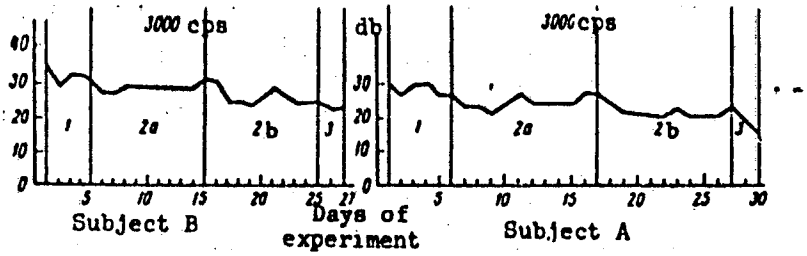
L 14264-66
ACC NR: AT6003845

(Continuation of Fig. 1)



*1, 2a, 2b, 3 - Experimental stages

In the next 4—5 days, the hearing threshold decreased by 5—7.5 db as compared to the first day. This reflected initial adaptation of the subjects to the experimental conditions.

The second stage (2a and b on the graph) was characterized by high stability of hearing sensitivity during the 23rd and 24th day of 30-day experiments.

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L 14264-66
ACC NR: AT6003845

The third stage (3) was characterized by a further decrease in hearing thresholds, which reflected an improvement in hearing. The author is not able to explain this phenomenon. However, it is suggested that the progressive improvement in hearing following prolonged exposure to noise reflects an intensified excitatory process in the cerebral cortex. Restoration of auditory sensitivity took place 10—15 min after the termination of the experiment; full restoration was observed a few months later. Orig. art. has: 1 figure. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 018 / OTH REF: 007

Card 5/5

L 21828-66 EWP(m)/EEC(k)-2/EWA(h)/EWP(k)/EWT(d)/EWT(l)/EWT(m)/ETC(m)-6/T-2

ACC NR: AP6003451 SOURCE CODE: UR/0216/66/000/001/0014/0020

EWA(d)/FSS-2/EWP(w)/EWP(v) TT/EM/GW

AUTHOR: Yuganov, Ye. M., Krylov, Yu. V., Kuznetsov, V. S.

ORG: none

62
8

TITLE: Some problems of development of an optimal acoustic environment in spaceship cabins

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 1, 1966, 14-20

TOPIC TAGS: noise tolerance, manned spaceflight, life support system, auditory analyzer

ABSTRACT: The effect of high-frequency (up to 3000 cps) noise (60-76 db) on the human auditory analyzer was studied for periods of up to 60 days in order to determine the acceptable threshold value of life-support system noise in manned spacecraft. Factors such as hypokinesia, restrictive clothing, capsule living conditions, and the monotony of sound were taken into consideration. Continuous noise for 72 hours raised the auditory threshold by 15—20 db and 10-day experiments resulted in a 20—25 db increase with functional disorders of the auditory analyzer after 10 days. Intermittant noise (up to 7 hrs/day) showed a cumulative

UDC: 629.195.2:534.83

L 21828-66

ACC NR: AP6003451

effect only after months or years. Acceptable lower and upper limits for background noise in spacecraft cabins were found to be 50 and 60 phons for periods up to 30 days. An excessively low noise level is harmful to the neuropsychic system. To lessen the effects of monotony, changes in amplitude and frequency are recommended, but volume should not exceed 58—60 phons. [BM]

SUB CODE: 06,22/SUBM DATE: 26Jul65/ ORIG REF: 010/ OTH REF: 010

Card 2/2 nst

L 25971-66 EWT(1) SCTB DD

ACC NR: AP6015415 SOURCE CODE: UR/0216/66/000/003/0424/0426

AUTHOR: Krylov, Yu. V. 12 B

ORG: none

TITLE: Functional characteristics of the human auditory analyzer under the influence of Coriolis accelerations of different magnitude

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 3, 1966, 424-426

TOPIC TAGS: auditory analyzer, vestibular analyzer, Coriolis acceleration, auditory sensitivity, hearing

ABSTRACT: Changes in auditory analyzer function during vestibular disturbances caused by Coriolis accelerations were studied. Four subjects stayed in the MVK-1 slow-rotation room for 24-hr periods in four series of experiments (including a control). Rotation rates were 5.3 deg/sec, 10.6 deg/sec, and 21.2 deg/sec. Coriolis accelerations were created by periodic inclinations of the torso and head at a rate of approximately 1/sec. Thresholds of auditory sensitivity (at frequencies from 125—8000 cps) were determined with an AU-5 audiometer in an attempt to detect auditory disruptions in a wide range of frequencies. Auditory determinations were made at the beginning and end of the experiment, and halfway through the experiment. A background tone (frequency 1000 cps, intensity 75 db) was used to study more complex auditory function. Experimental results showed that a 24-hr stay in a small chamber

Card 1/2 UDC: 611.84/.88:629.195

L 25971-66

ACC NR: AP6015415 O

(the MVK-1) without rotation produced 10—12.5 db fluctuations in audiosensitivity. Continuous rotation for 24 hr with a constant angular velocity of 5.3 deg/sec did not cause essential changes in audiosensitivity. But, continuous rotation in the same room at higher velocities, 10.6 and 21.2 deg/sec, changed audiosensitivity by 12.5—25 db. It was concluded that general fatigue caused by vestibular stimulation definitely affects audiosensitivity. The physiological mechanisms of interaction between the auditory and vestibular analyzers in the conditions studied are not yet understood. [JS]

SUB CODE: 06/ SUBM DATE: 22Dec65/ ORIG REF: 005/ ATD PRESS: 4256

Card 2/2 FW

ACC NR: AT6036598 SOURCE CODE: UR/0000/66/000/000/0233/0234

AUTHOR: Krylov, Yu. V.

ORG: none

TITLE: Functional state of the auditory analyzer in man during prolonged exposure to small coriolis accelerations /Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966/

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 233-234

TOPIC TAGS: biologic acceleration effect, coriolis acceleration, motion sickness, noise biologic effect, auditory analyzer

ABSTRACT:

Studies of the human auditory analyzer were run in a slowly rotating MVK-1 chamber which was designed under the direction of A. V. Lebedinskiy. Four series of experiments lasting 24 hr were conducted at rotational rates of 5.3° /sec, 10.6° /sec and 21.2° /sec. One test was a motionless control run. Coriolis accelerations consisted of inclining the trunk and head through a plane perpendicular to the rotation (one movement per second). Hearing threshold was tested at frequencies of 125—8000 cps and masking

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ACC NR: AT6036598

threshold with a 700-cps tone (1000 cps noise). The 24-hr exposure to the small chamber (control test) resulted in a 10.0—12.5-db fluctuation in hearing threshold. Rotation at 5.3° /sec did not cause any fluctuations in hearing threshold substantially differing from control values. At rates of 10.6 and 21.2° /sec, a 15—25 db fluctuation in hearing sensitivity was noted. The data exceeded those in the control test. It is proposed that the observed changes in hearing indices are not only specific to Coriolis accelerations but also reflect general functional disorders caused by motion sickness.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

L 00831-67 EWT(1) SCTB DD/GD

ACC NR: AT6036691 SOURCE CODE: UR/0000/66/000/000/0396/0397

AUTHOR: Yuganov, Ye. M.; Mirzoyev, B. M.; Krylov, Yu. V.; Kuznetsov, V. S. 31

ORG: none

TITLE: Material for the physiological and hygienic establishment of permissible levels of noise pulses (acoustic shock waves) [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 396-397

TOPIC TAGS: acoustic biologic effect, sonic boom, electroencephalography, psychophysiology, blood chemistry, endocrinology

ABSTRACT:

Supersonic aviation has added acoustic shock (the impact of pulsed noise, commonly called a sonic boom) to the range of noise effects. Physiological and hygienic norms for the intensity of acoustic shock must be established for future use in civil aviation. Foreign literature devoted to the effect of acoustic shock on man emphasizes its psychoacoustic effect. In these studies the effect of acoustic shock on human physiological functions was also studied. The function of auditory, vestibular, and motor analyzers

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was investigated, together with cardiovascular activity, mental working capacity, electrocutaneous resistance, and hormone and carbohydrate metabolism. EEG's and EKG's were also recorded.

Two series of experiments were conducted with human subjects: in the first the effect of a single acoustic shock with an intensity of 2.5, 5.0, or 7.5 kg/m^2 was studied, and in the second the cumulative effect of acoustic shock was investigated for 5 days.

Experimental results showed no reliable physiological changes under the influence of a single acoustic shock with an intensity of 2--2.5 kg/m^2. However, an acoustic shock of 5--5.5 kg/m^2 causes shortening of the R--R$_1$ interval of an EKG and decrease in the speed of arithmetical calculation. After single acoustic shocks of 7--7.5 kg/m^2, a moderate and brief disruption of the quality and speed of arithmetical calculation was noted. In addition, desynchronization of the alpha-rhythm and decrease in its amplitude were observed, as well as quickening of the pulse. Repeated and cumulative effects of acoustic shocks in the 7--7.5 kg/m^2 intensity range pro-

L 08831-67

ACC NR: AT6036691

duced changes [not described] in mental working capacity, EEG, EKG, and in the function of the auditory, vestibular and motor analyzers. However, there were no major discrepancies in humoral and endocrine function. Repeated acoustic shocks with an intensity of 9--9.5 kg/m^2 caused unfavorable psychoacoustic reactions, accompanied by shuddering and fright. Subjects complained of headaches, noise, and a full and stuffy feeling in the ears. Otoscopic examination showed small hemorrhages in tympanal epithelium. At the same time, the corticosteroid level in the blood increased reliably, indicating activitation of the pituitary-adrenal system. Changes in other physiological functions conformed to the pattern described above. The cumulative effect of acoustic shocks of 9.5 kg/m^2 is demonstrated by the relative degree of physiological change produced under these conditions and by the unfavorable psychoacoustic reactions. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

KRYLOV, Yu.V.

Controversial questions of geological history and the subdivision of rocks in engineering geology. Biul. MOIP. Otd. geol. 32 no.6:147-148 N-D '57. (MIRA 11:4)
(Rocks--Classification and nomenclature)
(Engineering geology)

KRYLKOV, Yu.V.

Similarity and dissimilarity between structural features in sediments of periglacial and loess formations. Biul.MOIP.Otd.geol. 35 no.4: 156-157 Jl-Ag '60. (MIRA 14:4)
(Sediments (Geology))

BANIN, A.P.; KONTOROVICH, Z.L.; KRYLOV, Yu.V.

Certain problems involved in the switching of petroleum pipelines. (MIRA 17:3)
Neft. khoz. 42 no.2:54-59 F '64.

KRYLOVA, A.

In the Karl Marx and Friedrich Engels Museum. Nauka i zhizn' 29 no.11:6-11 N '62. (MIRA 16:1)
(Engels, Friedrich, 1820-1895--Museums, relics, etc.)
(Marx, Karl, 1818-1883--Museums, relics, etc.)

KRYLOVA, Aleksandra

The Academy of Health. Zdorov'e 2 no.1:23-24 Ja '56. (MLRA 9:3)
(ACADEMY OF MEDICAL SCIENCES OF THE U.S.S.R.)

GILEVICH, Yu.S., prof.; TUSHINSKIY, I.I., zasluzhennyy vrach RSFSR; VEREYUTIN, Yu.M.; SKIBA, V.M.; KRYLOVA, A.A.

Some problems of the epidemiology, distribution and localization of the echinococcal disease. Uch. zap. Stavr. gos. med. inst. 8:7-29 '63 (MIRA 17:7)

1. Kafedra obshchey khirurgii (zav. - prof. YU.S. Gilevich) Stavropol'skogo meditsinskogo instituta (rektor - zasluzhennyy deyatel' nauki, prof. V.G. Budylin).

GILEVICH, Yu.S., prof.; TOSHINSKIY, I.I., zasluzhennyy vrach RSFSR; KRYLOVA, A.A., studentka 4-go kursa

Spreading and localization of hydatids. Uch. zap. Stavr. gos. med. inst. 12:188-189 '63. (MIRA 17:9)

1. Kafedra obshchey khirurgii (zav. prof. Yu.S. Gilevich) Stavropol'skogo gosudarstvennogo meditsinskogo instituta i Pyatigorskaya gorodskaya bol'nitsa (glavnyy vrach A.S. Partigulov).

GILEVICH, Yu.S., prof.; KRYLOVA, A.A.

Some problems of surgery in the hydatid disease. Uch. zap. Stavr. gos. med. inst. 12:217-218 '63. (MIPA 17:9)

1. Kafedra obshchey khirurgii Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

ABAYEV, Yu.I.; KHYLOVA, A.G.

Feeding habits of young roach (Rutilus rutilus heckeli) in the Beysug spawning ground and liman. Trudy AzNIIRKH no.6:127-131 '63. (MIRA 17:8)

KHYLOVA, A. I. Cand Agri Sci — (diss) "Soils of the Red Banner region of Kaliningrad Oblast," Moscow, 1959, 18 pp, 200 copies (All-Union Sci Res Institute of Fertilizers and Agricultural Soil Science, All-Union Academy of Agricultural Sciences im V. I. Lenin) (KL, 48/60, 115)

1. KRYLOVA, A. K.

2. USSR (600)

4. Ural Mountain Region - Paleobotany

7. Stratigraphy and the prospects of oil in the Devonian deposits of the western slope of the Southern Urals (basins of the Zilima and the Zigana Rivers). (Abstract.) Izv.Glav.upr.geol.fon. no.2, 1947

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

"Attempt in Classifying the Ordovician of the Central Part of the Irkutsk Cirque by the Distribution of Chemical Elements and the Mineralogical Composition of Rocks." p. 427

Geologicheskiy sbornik, 3, (Collection of Articles in Geology, Vol. 3), Leningrad Gostoptekhizdat, 1958, 471pp. (Trudy, vyp 126, Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut)

3(0)

AUTHOR: Krylova, A. K. SOV/20-124-1-46/69

TITLE: The Upper Devonian of Stolb Island in the Mouth of the Lena River (O verkhnem devone ostrova Stolb v ust'ye Leny)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 162-164 (USSR)

ABSTRACT: The author describes a small part of the fauna from the strata mentioned in the title, collected by Ye. M. Lyutkevich in 1957, and describes her observations, which she made together with V. D. Nikiforova. The fault described by A. A. Mezhvilk (Ref 4) was not confirmed. The total thickness of the rocks is not over 100 m. The fauna found here (identification by A. K. Nalivkina) places the containing limestones in the Middle Frasnian substage of the Upper Devonian. Similar bituminous limestones were found in West Taymyr by Lyutkevich and G. A. Dmitriyev (Ref 2). According to D. V. Nalivkin the fauna of Stolb is related to the fauna of the Domanik strata of Nordvik, Novaya Zemlya and the northern Ural. By this means the connection between the Upper Devonian waters of the Arctic region can be inferred. The Domanik strata of Stolb Island are a connecting link between

Card 1/3

theiroccurrence in Taymyr and in the Far East. One can speak of a wide distribution of the Domanik facies along the Arctic basin and of a connection with Timan and the eastern part of the Russian platform. The light color of the higher lying limestones in comparison with those mentioned above, allows the former to be assigned to the Upper Frasnian substage. The uppermost Devonian strata of Stolb Island consist of dark gray, often almost black limestones with characteristic splintery dislocation surfaces. In spite of the meagreness and its incomplete preservation, the fauna indicates relationship to the Famennian stage of the Upper Devonian. The limestones and limestone conglomerates overlying may be compared with the Lower Carboniferous sediments of Cape Krestyakh. As the fauna described here showed, higher Devonian strata are developed on Stolb Island than those indicated by Nalivkin from the Frasnian Stage of the Kharaulakhskiye Mountains (findings of V. N. Sokolov from the mouth of the Lena River)(Ref 5). The fauna of Stolb has all indications of adult forms, is, however, marked by small size. This might be traced back to unfavorable living conditions in the waters. The determination of Upper Devonian on Stolb Island

indicates that west of Cape Krestyakh an uplift of strata occurs and not a sinking, as the maps of M. F. Lobanov (Ref 1) and A. A. Mezhvilk (Ref 3) incorrectly indicate. The outlooks for oil occurrences in the Devonian (Domanik) northeast of the Siberian platform rise as a result of the discovery of highly bituminous limestones with inclusions of solid bitumen. There are 6 Soviet references.

ASSOCIATION: Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut (All-Union Scientific Research Institute of Geological Prospecting for Petroleum)

PRESENTED: July 18, 1958, by D. V. Nalivkin, Academician

SUBMITTED: July 16, 1958

KRYLOVA, A.K.

Stratigraphy of paleozoic sediments in the Kara Valley (Pay-Khoy). Trudy VNIGRI no.196. Paleont.sbor. no.3:59-75 '62.
(MIRA 16:4)
(Kara Valley (Pay-Khoy)—Geology, Stratigraphic)

KRYLOVA, A.K.

Middle Devonian Brachiopoda in Mongolia. Trudy VNIGRI no.196. Paleont.sbor. no.3:76-87 '62. (MIRA 15:4)
(Mongolia--Brachiopoda, Fossil)

KRYLOVA, A.K.; MENNER, V.Vl.

Age of the Yukte series of the Siberian Platform. Trudy VNIGRI no.196. Paleont.sbor. no.3:89-105 '62. (MIRA 16:4)
(Siberian Platform--Geological time)

KRYLOVA, Anna Kuz'minichna; NEVEL'SHTEYN, V.I., vedushchiy red.; SAFRONOVA, I.M., tekhn.red.

[Stratigraphy and Brachiopoda of the Devonian of the Siberian Platform] Stratigrafiia i brakhiopody devona Sibirskoi platformy. Leningrad, Gostoptekhizdat, 1962. 107 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'skii geologorazvedochnyi institut. Trudy, no.200) (MIRA 16:3)

(Siberian Platform--Geology, Stratigraphic)
(Siberian Platform--Brachiopoda, Fossil)

L 33232-66 EWT(1) GW SOURCE CODE: UR/0210/66/000/003/0101/0112

ACC NR: AP6024603

AUTHOR: Krylov, S. V.; Krylova, A. L.; Mishon'kina, Z. R.; Ryaboy, V. Z.; Ryalov, V. A.

ORG: Institute of Geology and Geophysics, Siberian Department, AN SSSR, Novosibirsk (Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR); "Spetsgeofizika" Trust, Moscow ("Spetsgeofizika" kontora)

TITLE: Results of point and continuous observations in deep seismic sounding

SOURCE: Geologiya i geofizika, no. 3, 1966, 101-112

TOPIC TAGS: seismography, earth crust, Mohorovicic discontinuity, upper mantle, seismology

ABSTRACT: For the purpose of additional evaluation of the possibilities of the method of point seismic observations, now used widely for regional study of the earth's crust in the West Siberian Lowland, the authors have compared the results of interpretation of data from deep seismic sounding by the point and continuous systems of observations along a profile from Ashkhabad to the Aral Sea. The system of point observations was formed using about 10% of the total number of seismograms obtained during continuous profiling. Comparison of the results of construction of three discontinuities (surface of the consolidated crust, Mohorovicic discontinuity and the earth's upper mantle),

UDC: 550.83/.84(575.4)

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L 33232-66

ACC NR: AP6024603

which correspond to clear reference waves, gives a correct idea concerning the major features of structure of the deep layers on a regional basis. Fig. 1 is a seismic cross section showing structure of the crust along this profile. The authors thank S. V. Gol'din for valuable advice concerning the analysis of the accuracy of the results. Orig. art. has: 2 figures, 5 formulas and 1 table. [JPRS]

SUB CODE: 08 / SUBM DATE: 10May65 / ORIG REF: 012

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L 04488-67 EWT(1) GW

ACC NR: AP6021869 (A) SOURCE CODE: UR/0210/66/000/001/0010/0020

AUTHOR: Krylov, S. V.; Krylova, A. L.; Mishen'kin, B. P.; Mishen'kina, Z. R.; Samoylovich, A. S. 11 B

ORG: Institute of Geology and Geophysics, Siberian Section, AN SSSR (Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR); Novosibirsk Geophysical Trust (Novosibirskiy geofizicheskiy trest)

TITLE: Structure of the earth's crust in the center and in the southeast of the West Siberian lowland according to data from isolated seismic soundings

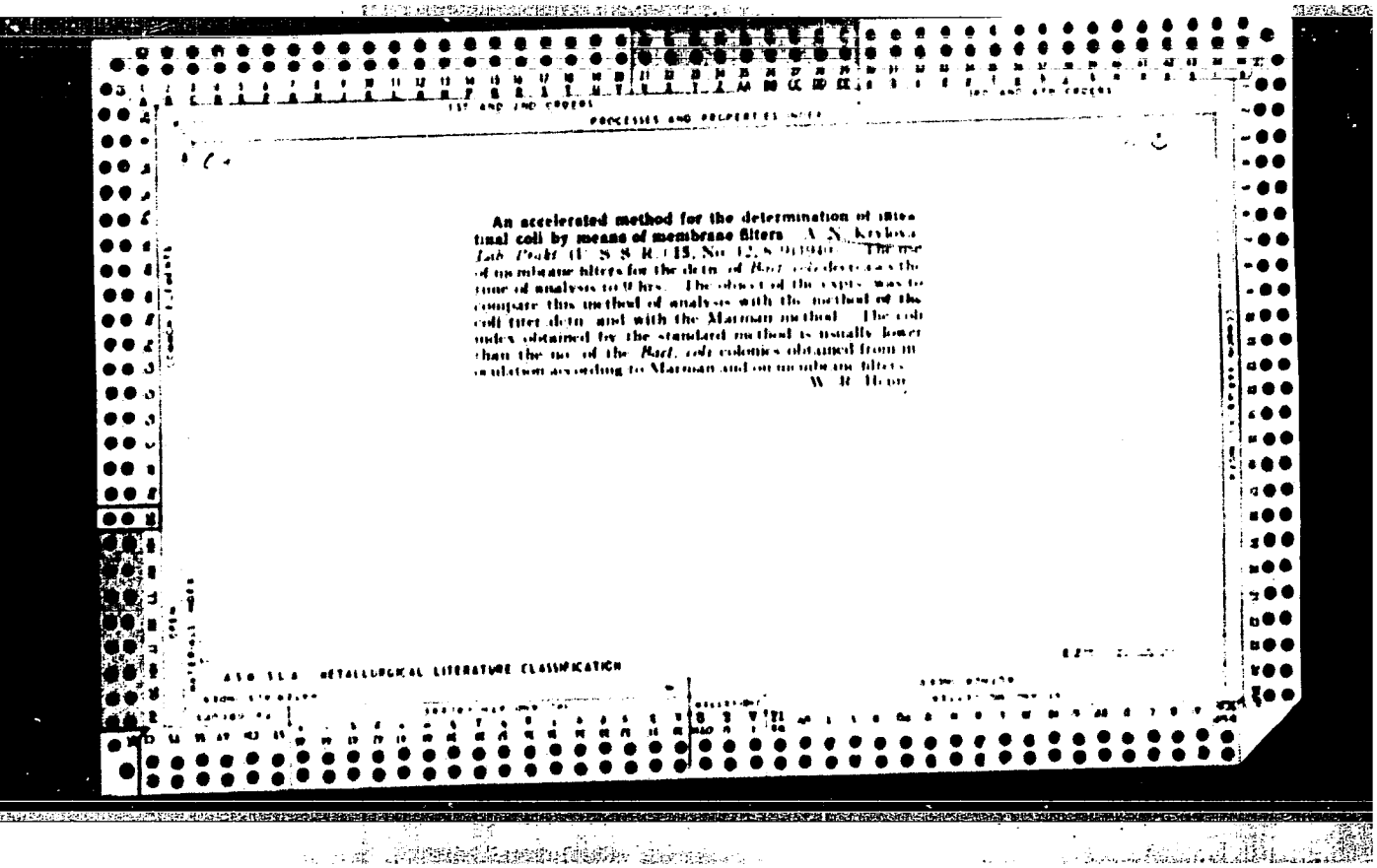
SOURCE: Geologiya i geofizika, no. 1, 1966, 10-20

TOPIC TAGS: geology, tectonics, gas fuel, crude petroleum, seismology, earth crust

ABSTRACT: Features of the methodology used for regional seismic investigations of the earth's crust in the West Siberian lowland along the Ob' and Ket' rivers are reported. The composite section of the earth's crust along a line from Khanty-Mansiysk to Ust-Ozernoye is cited. Conclusions, the results of an analysis of the seismic section and of the natural geophysical fields, are drawn concerning the basic outlines of the structure of the core of the territory investigated. The dependency of the characteristics of lithology, tectonics, and regional oil and gas bearing properties of the platform mantle on the plutonic structure is stressed. Orig. art. has: 1 map and 1 diagram showing the seismic section of the earth's crust.

SUB CODE: 08 / SUBM DATE: 07 Aug 65 / ORIG REF: 020

Card 1/1 egh UDC: 551.14 : 550.834 (571.1)



An accelerated method for the determination of intestinal coli by means of membrane filters A. N. Kryłova *Lab. Probl.* (U.S.S.R.) 15, No. 12, 8–9 (1946). The use of membrane filters for the detn. of *Bact. coli* decreases the time of analysis to 9 hrs. The object of the experiments was to compare this method of analysis with the method of the coli titer detn. and with the Mariman method. The coli index obtained by the standard method is usually lower than the no. of the *Bact. coli* colonies obtained from membrane filters according to Mariman and on membrane filters. W. H. Ross

CA

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Confirmatory microcrystalline reactions for arsenic in the Marsh test. A. N. Krylova (State Med. Inst., Moscow). *Apteknoe Delo* 1932, No. 2, 23-7.—Since an As deposit in the Marsh test is often not clearly visible and the sublimate of As_2O_3 often does not have a definite cryst. form, a dependable procedure was developed on the basis of the formation of an iodide complex of As with Cs, followed by treatment with pyridine, which permits distinction of As from Sb and is dependable to 1 γ As. Treatment of a HCl soln. of tri- or quinquevalent As with CsCl or RbCl in the presence of KI yields complexes that are analogous to Cs_3BiI_6 and Cs_3BiI_6. The Rb deriv. forms only at high concns. of As. The As deriv. ppts. as red crystals forming either four-pointed stars or regular hexagons. CsCl is best added to the test soln. as a small dry crystal, but an excess of solid KI is needed. Pyridine acts on this deriv. of As in such a way that needle-shaped crystals develop at the edges of the pyridine droplet; the Sb compd. becomes colorless. Treated with HCl the pyridine soln. in contact with the As deriv. retains its appearance, while the Sb deriv. again acquires an orange color. Dissolve the Marsh sublimate in 5 *N* HNO_3 and evap. to dryness. Take up the residue in HCl and test as above. G. M. Kosolapoff

KRYLOVA, A. N.--

Chemistry, Legal

Stages of development, role, and perspectives of micro-chemical analysis in forensic chemical analysis. Apt. delo no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress. November, 1952. UNCLASSIFIED

KHYLOVA, A.N.

Microdetermination of lead, barium, and silver ions in forensic chemical analysis. Aptech. delo, Moskva 2 no.2:53-58 Mar-Apr 1953. (CLML 24:3)

1. Of the Forensic Chemistry Division (Head -- Prof. M. D. Shvaykova), State Scientific-Research Institute of Forensic Medicine (Director -- Prof. V. I. Prozorovskiy), Ministry of Public Health USSR.

If the fractional method of analysis, introduced by N. A. Tananayev, is used, the number of steps is reduced as well as the time (down to 30-40 min), the size of the sample, and the quantity of reagents. In 100 g material taken from a dead body, 0.15 mg of Pb, 0.015 mg of Ba, and 0.05 mg of Ag can be detected. Destruction of org matter with nitric acid and sulfuric acid is preferable to that with ammonium nitrate and sylfuric acid.

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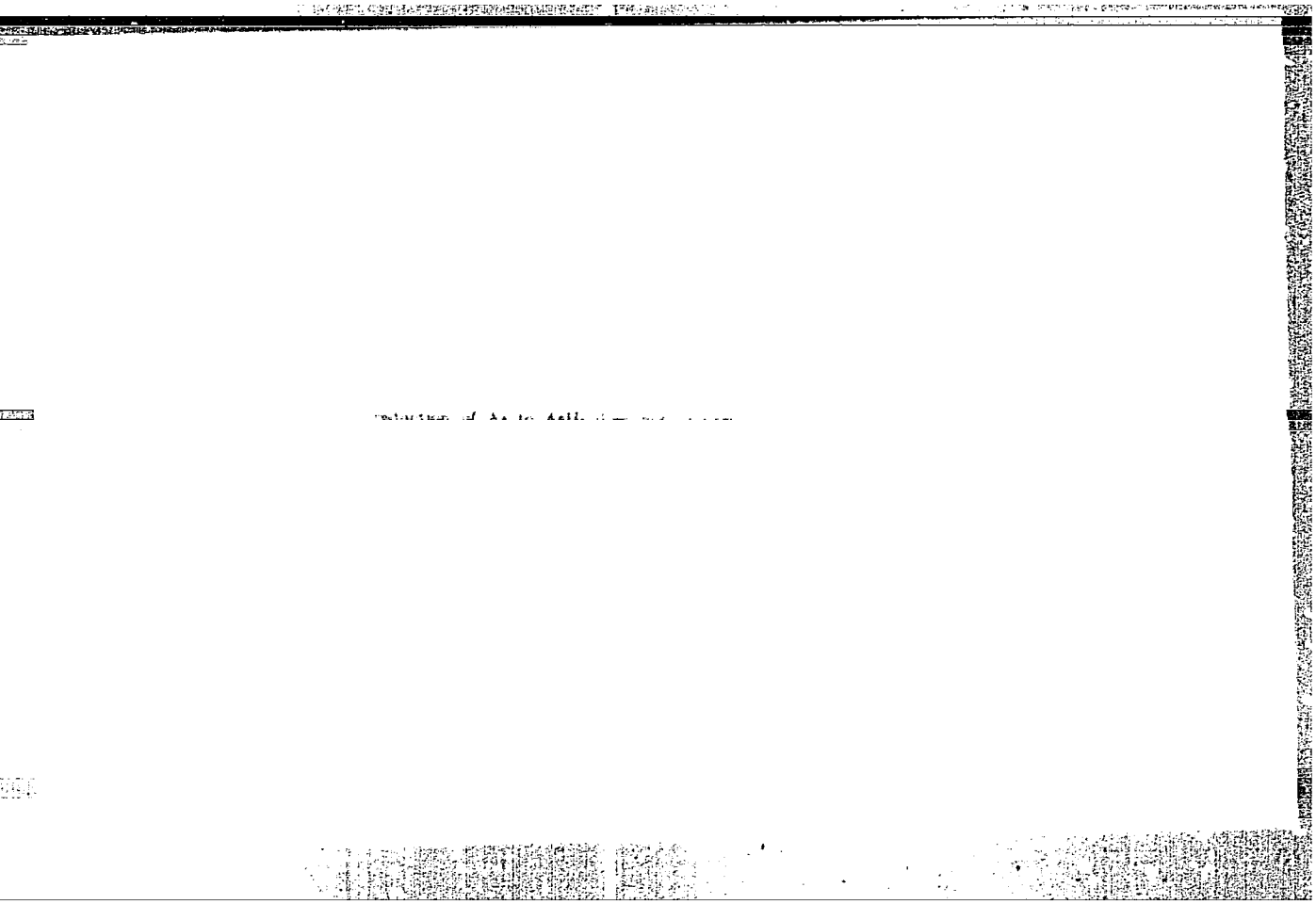
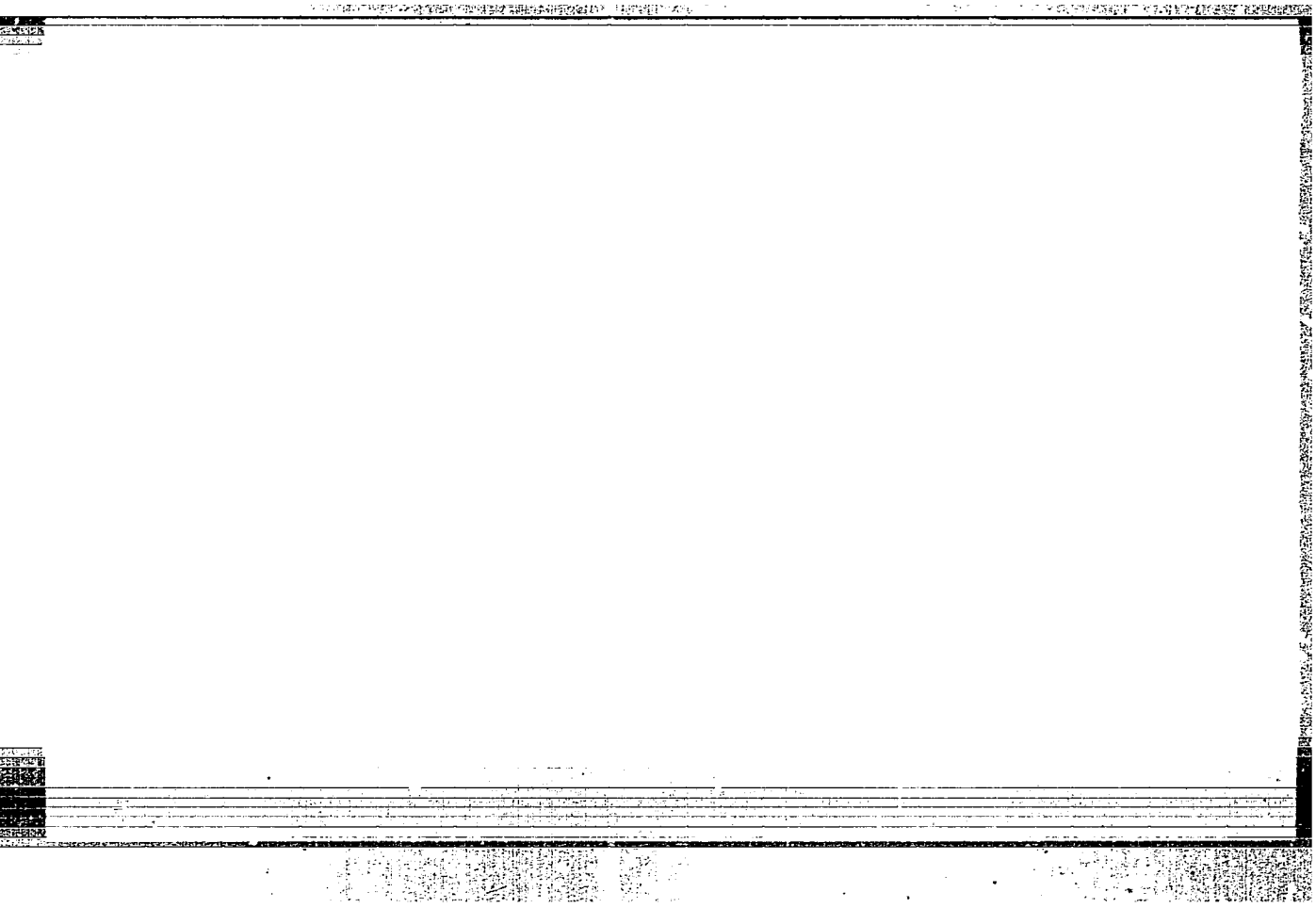


APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826830009-5"



APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826830009-5"

KRYLOVA, A.N.

Use of trilon B in determining Ba^{2+} in biological material. Apt. delo 6 no.6:28-32 N-D '57. (MIRA 10:12)

1. Iz sudebnokhimicheskogo otdela (zav. - prof. M.D.Shvaykova) Nauchno-issledovatel'skogo instituta sudebnoy meditsiny.
(BARIUM) (ACETIC ACID)

KRYLOVA, A.N.

Detection of antimony in biological material by the fractional method. Sud.-med.ekspert. 2 no.3:31-36 Jl-S '59. (MIRA 13:4)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny (dir. - prof. V.I. Prozorovskiy) Ministerstva zdravookhraneniya SSSR.
(ANTIMONY--ANALYSIS)

KRYLOVA, A.N.

Determination of mercury in forensic chemical analysis of human liver and kidneys. Sud.-med. ekspert. 8 no.1:29-33 Ja-Mr '65. (MIRA 18:5)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny (dir. - prof. V.I.Prozorovskiy) Ministerstva zdravookhraneniya SSSR, Moskva.

KRYLOVA, A.N.

Fractional determination of manganese in cadaveric material. Sud.-med. eksp. 8 no.3:35-43 Jl-S '65. (MIRA 18:9)

1. Nauchno-issledovatel'skiy institut sudebnoy meditsiny (dir.-prof. V.I. Prozorovskiy) Ministerstva zdravookhraneniya SSSR, Moskva.

KOLESNIKOV, N.N.; KRYLOVA, A.P.

Nuclear subshells and deformations in the range beyond lead. Zhur. eksp. i teor. fiz. 33 no.1:274-277 Jl '57. (MLRA 10:9)

1. Moskovskiy gosudarstvennyy universitet.
(Nuclei, Atomic) (Transuranium elements)

KRYLOVA, A.P.

56-7-46/66

AUTHOR KOLESNIKOV, N.N., KRYLOVA, A.P.

TITLE The Nuclear Subshells and the Deformations behind the Lead. (Yadernyye podobolochki i deformatsii v oblasti za svintsom.- Russian)

PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 33, Nr 7, pp 274-277 (USSR)

ABSTRACT First, reference is made to some previous works on the same subject and to the results obtained. The authors endeavor to find out

a) with what numbers N and Z is the change of deformation connected?

b) are not the subshells filled somewhere within range of the heavy nuclei?

c) Determination of the energy of the closure of the subshells and the effect produced by deformation.

For this purpose the authors investigated the problem from an energetical point of view. The binding energies of neutrons and protons were compared. Here not the absolute values of the binding energies of the neutrons, but their differences ate of importance. The curve of "reduced" binding energies of the neutrons has several curvatures which are found at the same points in the

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The Nuclear Subshells and the Deformations behind the Lead.

56-7-46/66

case of all types of nuclei. This confirms the existence of particular features of nuclear energies at N = 130, 136, 144, 152. A similar investigation of the binding energies of the protons lead to particularities at Z = 86,92 and 96. In order to understand the significance of these numbers the authors analyzed the position of the lower rotation levels. In any case the numbers Z = 86 and N = 130 are connected with a sharp modification of the deformation. The special numbers N = 144 and N 156, Z = 96 are in any case connected not only with the deformations alone. The effect produced by the deformation of the nuclei amounts to about 0,7 MeV for neutrons and protons. The effect produced by all subshells amounts to only about 0,2 MeV (only in the case of N = 152 do they amounz to about 0,4 MeV). (With 1 Illustration)

ASSOCIATION: Mosocw State University. (Moskovskiy gosudarstvennyy universitet.- Russian)

PRESENTED BY: -

SUBMITTED: 11.3. 1957

AVAILABLE: Library of Congress.

CARD 2/2

21(1) SOV/56-37-2-34/56

AUTHORS: Kolesnikov, N. N., Krylova, A. P.

TITLE: The Proton Subshell of Z = 100

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 2(8), pp 550-553 (USSR)

ABSTRACT: In the USSR, Flerov and his collaborators (in the USA Seaborg and Giorso) synthetized the short-lived isotopes 102^{253} and 102^{254}. These isotopes were found to decay under α-emission (8.8 Mev - half life 2-30 sec; 8.3 Mev - 3 sec), as well as by way of a fission (30%); thus, the activity with a half life of 10 min, which was found by Swedish scientists, has probably nothing to do with the element 102. The authors of the present "Letter to the Editor" investigated the anomalous properties of the two isotopes of the element 102 and discovered several interesting facts. If, in a diagram, the reduced energy of the α-decay Q_α^* is plotted against the number of neutrons N in the nucleus (here in figure 1 of N = 144 - 155) it is found that these two isotopes are above the general curve, and that there-

Card 1/3

fore the Q_α^* of these two isotopes are anomalously great. For nuclei with the same N but with different Z $Q_\alpha^*(N,Z) = Q_\alpha(N) - 0.8(Z - Z^*)$ holds; Z^* is that Z-value which corresponds to the more β-stable nucleus with given A, $Q_\alpha^*(N,Z)$ is the energy of the α-decay of the nucleus (N,Z^*) in Mev. Thus $Z^* = 0.356\ A + 9.1$ is obtained. It follows from these relations that the $Q_\alpha^*(N)$ obtained from the experimentally found Q_α-values may coincide at any N-value, even in the presence of neutron shells and -subshells; only in the case of the existence of proton subshells do the corresponding points cancel out of the $Q_\alpha^*(N)$-curve. Within the entire domain represented by this diagram this is the case only for the two isotopes of the element 102, which indicates that they both have proton subshells. The fact that the nuclear properties vary after Z = 100 is proved also by the sharp decrease of the half life of the spontaneous fission of 102^{254}; figure 2 shows the curve $\lg \tau_\alpha = f(E_\alpha)$ - both isotopes of the element 102 show increased forbiddance in α-de-

cay (cf. also the curve $\lg \tau_f = f(Z^2/A)$ in reference 4). In connection with the anomalous increase of the spontaneous fission probability, i.e. of the decrease of the stability of the nuclei after N = 152 and Z = 100, the possibility of evaluating an upper limit of the Z-value is finally discussed. The authors thank Professors D. D. Ivanenko, A. Giorso and S. Tompson as well as G. N. Flerov for discussions, and S. I. Larin for valuable advice. There are 2 figures and 12 references, 7 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: April 1, 1959

S/028/62/000/002/004/004
D223/D303

AUTHORS: Kaplan, A.S., Kozlova, N.N. and Krylova, A.P.

TITLE: New steels and alloys

PERIODICAL: Standartizatsiya, no. 2, 1962, 50-52

TEXT: The new Standard GOST - 5632 - 61, which replaces the old GOST - 5632 - 51, was introduced in January 1, 1962. It covers 99 types of steels and alloys. These are divided into three groups: Corrosion-resisting, heat-resisting and heat and stress-resisting. Corrosion-resisting steels can withstand electrochemical corrosion (atmospheric, soil alkali, acid, salt, sea etc.); the heat-resisting type, when unloaded or slightly loaded state resists surface deterioration in a gaseous medium at temperatures above 550°C. Heat and stress resisting type operates subject to stresses at high temperatures. Division according to structural characteristics: Martensite, martensite-ferrite, ferrite, austenite-martensite, austenite-ferrite and austenite types. The new chemical classification is made on a ferro-nickel and nickel basis. Alloys

Card 1/2

New steels and alloys ...

a) have over 65% Fe+Ni and the ratio of Ni to Fe is about 1:1.5; alloys b) have more than 55% of Ni. The comparison of the old and new standards for all three groups is given. For each type its application is indicated according to working temperatures. The maximum amount of S and P is given by groups. The new names and their comparison with old names are given. Names have the form of letters, e.g. nickel (H) and its content in % (say 7%) is given as H7 (N7) etc. Tables giving all possible specific data on application, temperature and duration are added to the Standard.

Card 2/2

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S/659/62/009/000/023/030
I003/I203

AUTHORS Krylova, A. P., Maslenkov, S. B., and Zharkova, D. N.

TITLE The kinetics of oxidation and the structure of oxides of some industrial heat-resisting alloys

SOURCE Akademiya nauk SSSR. Institut metallurgii. Issledovaniya po zharoprochnym splavam v 9. 1962. Materialy Nauchnoy sessii po zharoprochnym splavam (1961 g.), 162-164

TEXT: The purpose of this work is to investigated the kinetics of oxidation and the phase composition of the oxide layers formed on the surfaces of ЭИ-813, and ЭИ-835 steels and of ЭИ-559A and ЭИ-652 alloys when they are heated in the air from 1 to 100 hours at 900°, 1000°, 1100° and 1200°C. The high corrosion resistance of these alloys is due to the formation of oxide layers of the spinel type on their surface. The EI-813 and EI-835 steels have a high heat-resistance up to 1000-1050°C due to their high chromium content. The authors refrain from explaining all the experimental data obtained as they consider their investigation to be unfinished. In the discussion, Prokoshkin D. A. pointed out the inconsistency of the data on the position of the Cr_2O_3 layer,. There is 1 figure.

Card 1/1

4495L

S/048/63/027/001/041/043
B108/B180

24.6410

AUTHORS: Kolesnikov, N. N., Krylova, A. P., and Kandybarov, V. K.

TITLE: Beta-stability of heavy elements

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 1, 1963, 132-136

TEXT: This paper aims to show that the overall beta-decay time, $\tau_{\beta-}$, varies regularly within limited regions of a nuclear system. Heavy nuclei ($Z > 87$, $N > 133$) with about the same deformation are the examples. Except for very low $(Z - Z_{\beta-})$, $\log \tau_{\beta-}$ for a nucleus (A,Z) decreases roughly linearly with increasing $\log(Z - Z_{\beta-})$. $Z_{\beta-}$ is the atomic number of a fictitious isobaric nucleus $(A,Z_{\beta-})$ which is at the energy threshold of beta-decay where $Q_{\beta-} = 0$. A similar law was also found for electron capture. These results can be explained if the following is assumed: (1) the major contribution comes from a (or a few) transition to the ground or a slightly excited level of the final nucleus, having (among

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the other single-particle levels) the lowest forbiddenness, (2) the reduced probabilities of beta transitions in the region considered vary within narrow limits. These assumptions are confirmed by comparing estimates with experimental results for nuclei of all four types of parity. This paper was read at the 12. Annual Conference on Nuclear Spectroscopy, Leningrad, January 26 - February 2, 1962. There are 3 figures. The most important English-language references are;
R. L. Lessler, M. Michel. Phys. Rev., 118, 263 (1960); K. Way, M. Wood. Phys. Rev., 92, 120 (1954).

Card 2/2

KOLESNIKOV, N. N.; KHYLOVA, A. P.; KANDYBAROV, V. K.

On β-stability of heavy elements. Izv. AN SSSR. Ser. fiz. 27 no.1:132-136 Ja '63. (MIRA 16:1)

(Beta rays—Decay)

KOLESNIKOV, N.N.; KRYLOVA, A.P.; KANDYBAROV, V.K.

Beta-stability of heavy elements. Izv. vys. uchob. zav.; fiz. no.5: 151-155 '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

Krylova, A.R.

AUTHORS: Pridantsev, M. V., Krylova, A. R. 32-2-30/..

TITLE: Methods for Testing the Thermal Resistivity of Steel Sheets and of Alloys (Metodika ispytaniya na termostoykost' listovykh staley i splavov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 204-205 (USSR)

ABSTRACT: The method described here has been applied since 1950 and does not show the deficiencies of other investigation methods, e. g. the insufficient fixing of the investigation samples. The sheet samples destined for investigation are 120 x 120 mm in size and have 5 holes in the centre, whereas they are firmly fixed to the basis at the corners with four bolts. The heating is performed by means of a glass-blower gas flame during 1 minute and the coolin to a desired temperature in an air jet of required temperature also during 1 minute. This heating and coolin is repeated until cracks are formed from the centre hole to the other four holes. As may be seen from a figure, a crater-like buckle and a distortion of the sample platelet are formed during this process. The crack formation can be observed with the

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help of a pocket lens. The deformation of the sheet sample is computed from the distortion of the centre hole (expressed in mm). It was observed, that the thermal resistivity of an austenitic Cr-Ni-alloy decreases with an increase of sheet thickness. An increase of size of the grains leads to the same effect. Based on the principle of the method described simultaneous investigation methods for several samples can be developed. There are 5 figures and 1 reference.

ASSOCIATION: Central Scientific Research Institute of Ferrous Metallurgy (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

AVAILABLE: Library of Congress

1. Steel-Thermodynamic properties 2. Heat resistant alloys-Thermodynamic properties

[illegible], A.[illegible]., inzh.; [illegible], A.A., kand.tekhn.nauk

Heat-resistant, economically alloyed EI835 steel. Metalloved.
i term. obr. met. no.10:27-28 O '61. (MIRA 14:10)

1. [illegible] tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Steel, heat-resistant)
(Steel alloys)

KRYLOVA, A.R., ZHARKOVA, I.N., MASLENKOV, S.B.

Kinetics of oxidation, composition and structure of the oxide films of refractory steels and alloys.

SPECIAL STEELS AND ALLOYS (SPETSIAL'NYYE STALI I SPLAVY), Collection of Studies, Issue 27, 240 pages, published by the State Scientific and Technical Publishing House for Ferrous and Non-Ferrous Metallurgy, Moscow, USSR, 1962.

KAPLAN, A.S.; KOZLOVA, N.N.; KRYLOVA, A.R.

New steels and alloys. Standartizatsiia 26 no.2:50-52 F '62.
(MIRA 15:2)
(Steel--Standards) (Steel alloys--Standards)

KRYLOVA, A.R.; MASLENKOV, S.B.; ZHARKOVA, D.N.

Kinetics of oxidation and the structure of oxides of certain commercial heat-resistant steels and alloys. Issl. po zharopr. splav. 9:162-164 '62. (MIRA 16:6)
(Heat-resistant alloys) (Metallic films)

KRYLOVA, A.R.; ZHARKOVA, D.N.; MASLENKOV, S.B.

Kinetics of oxidation, composition, and structure of oxide films on heat-resistant steels and alloys. Sbor.trud.TSNIICHM no.27: 169-178 '62. (MIRA 15:8)
(Heat-resistant alloys) (Oxidation)

L 10975-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JXT(CZ)

ACC NR: AT6026556 SOURCE CODE: UR/2776/66/000/046/0140/0150

AUTHOR: Krylova, A. R.; Kozlova, N. N.; Zharkova, D. N.

ORG: none

TITLE: Oxidation behavior of oxidation-resistant Kh23N18 and Kh25N16G7AR steels and KhN78T alloy at 1050°C

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys), 140-150

TOPIC TAGS: alloy steel, nickel alloy, chromium containing steel, nickel containing steel, manganese containing steel, metal corrosion, metal property / Kh23N18 steel, Kh25N16G7AR steel, KhN78T nickel alloy

ABSTRACT: The oxidation behavior of oxidation-resistant Kh23N18 (EI417) and Kh25N16G7AR (EI835) steels, and KhN78T (EI435) alloy at 1050C for 7000—8000 hr has been investigated. Cylindrical specimens were 10 mm in diameter and 20 mm high. It was found that KhN78T alloy had the highest oxidation resistance (see Fig. 1). The spinel-type scale formed on this alloy had the best protective properties. The loss of metal after 8000 hr amounted to 0.07 mm. Chromium was the most

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ACC NR: AT6026556

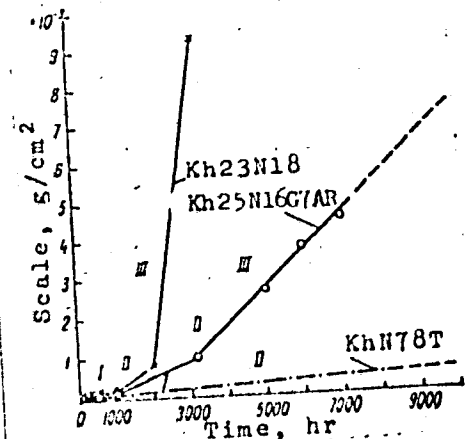

Fig. 1. Oxidation of Kh23N18, Kh25N16G7AR and KhN78T in air at 1050C

oxidized alloy component; after 7080 hr the chromium content in the surface layer dropped to 7.3%. Kh25N16G7AR steel was the second best with a loss of 0.33 mm in 7080 hr. Oxidation of Kh23N18 steel followed a parabolic rate for up to 2000 hr exposure; from then on it followed a linear rate because the scale lost its protective qualities. Loss of metal in 3300 hr was 0.30 mm. KhN78T alloy and Kh25N16G7AR steel can be recommended as oxidation-resistant materials for prolonged service (up to 10,000 hr) at 1000—1050C. Kh23N18 steel is not suitable for service longer than 2000 hr at 1050C unless intermittent cooling periods are used to offset the intensive oxidation. Orig. art. has: 5 figures and 4 tables. [TD]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 003

ATD PRESS: 5058

Card 2/2

PAVLYUK, N.P., inzh.; VAKUL'CHIK, V.G., inzh.; SERDYUK, N.S., inzh.; KRYLOVA, A.S., inzh.; KHARITONOV, A.G., inzh.

Remote control and remote signaling apparatus for mine ventilation systems. Ugol.prom. no.5:64-66 S-O '62. (MIRA 15:11)

1. Luganskiy filial instituta avtomatiki Gosplana UkrSSR.
(Mine ventilation) (Remote control)

KRYLOVA, A.S., nauchnyy sotrudnik

Controlling apple aphids. Zashch. rast. ot vred. i bol. 5 no. 8:42-43 Ag '60. (MIRA 13:12)

1. Krymskaya opytnaya stantsiya sadovodstva.
(Apple aphis)

SAVKOVSKIY, P.P., nauchn. sotr.; ISAYEVA, Ye.V., nauchn. sotr.; OLIFER, A.V., nauchn. sotr.; SHCHERBAKOV, V.V., nauchn. sotr.; POVZUN, I.D., nauchn. sotr.; MASLO, Ye.M., nauchn. sotr.; KRYLOVA, A.S., nauchn. sotr.; MATVIYEVSKIY, A.S., nauchn. sotr.; VASIL'KOVA, A.K., nauchn. sotr.; VOVCHENKO, D.P., nauchn. sotr.; BOGDAN, L.I., nauchn. sotr.; GROTTE, G.M., nauchn. sotr.; SKUTSKAYA, N.P., red.; DAKHNO, Yu.B., tekhn. red.

[Pests and diseases of fruit and berry crops] Vrediteli i bolezni plodovo-iagodnykh kul'tur; spravochnik. Kiev, Izd-vo AN Ukr.SSR, 1962. 275 p. (MIRA 16:7)
(Fruit—Diseases and pests)

SAVKOVSKIY, P.P., nauchn. sotr.; ISAYEVA, Ye.V., nauchn. sotr.; OLIFER, A.V., nauchn. sotr.; SHCHERBAKOV, V.V., nauchn. sotr.; POVZUN, I.D., nauchn. sotr.; MASLO, Ye.M., nauchn. sotr.; KRYLOVA, A.S., nauchn. sotr.; MATVIYEVSKIY, A.S., nauchn. sotr.; VASIL'KOVA, A.K., nauchn. sotr.; VOVCHENKO D.P., nauchn. sotr.; BOGDAN, L.I., nauchn. sotr.; GROTTE M.G., nauchn. sotr.; CHEPUR, N.D., red.

[Pests and diseases of fruit and berry plants; a manual] Vrediteli i bolezni plodovo-iagodnykh kul'tur; spravochnik. Kiev, Naukova dumka, 1965. 287 p. (MIRA 18:9)

YENIKEYEV, E.Kh.; KRYLOVA, A.V.

Poisoning of iron catalysts of ammonia synthesis. Kin.i kat. 3 no.1:139-144 '62. (MIRA 15:3)

1. Institut khimicheskoy fiziki AN SSSR.
(Ammonia) (Iron) (Catalysts)

MARGOLIS, L.Ya.; YENIKEYEV, E.Kh.; ISAYEV, O.V.; KRYLOVA, A.V.; KUSHNEROV, M.Ya.; Prinimala uchastiye: VILENKINA, S.M., laborant

Modification of hydrocarbon oxidation catalysts. Kin.i kat. 3 no.2:181-188 Mr-Ap '62. (MIRA 15:11)

1. Institut khimicheskoy fiziki AN SSSR.
(Hydrocarbons) (Oxidation) (Catalysts)

YEZHKOVA, Z.I.; IOFFE, I.I.; KAZANSKIY, V.B.; KRYLOVA, A.V.; LYUBARSKIY, A.G.; MARGOLIS, L.Ya.

Activity, structure and the electric properties of mixed vanadium catalysts. Kin. i kat. 5 no.5:861-867 S-O '64. (MIRA 17:12)

1. Nauchno-issledovatel'skiy institut organicheskikh poluprovodnikov i krasiteley i Institut khimicheskoy fiziki AN SSSR.

KRYLOVA, A.V.; KUZNETSOV, L.D.; KONYUKHOVA, I.N.

Effect of alkaline accelerators on the electron work function and the activity of ammonia catalysts. Kin. i kat. 5 no.5: 948-950 S-O '64. (MIRA 17:12)

1. Institut khimicheskoy fiziki AN SSSR i Gosudarstvennyy institut azotnoy promyshlennosti.

L 8492-66 EWT(1)/EWT(m)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) JD/RM

ACC NR: AP5026475 SOURCE CODE: UR/0195/65/006/005/0854/0859

AUTHOR: Krylova, A.V.; Margolis, L. Ya.; Chizhikova, G.I.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Electric properties of the volume and surface of zinc oxide

SOURCE: Kinetika i kataliz, v. 6, no. 5, 1965, 854-859

TOPIC TAGS: zinc oxide, work function, electric conductivity, adsorption

ABSTRACT: The electronic work function, electrical conductivity, and adsorption of oxygen were determined on pure and modified zinc oxide (containing 1 at. % Li or 1 at. % In) calcined for 6 hr in air at 500, 900, and 1300C. The conditions of thermal pretreatment of the ZnO semiconductor were found to have a considerable effect: depending upon these conditions, a symbatic or antibatic relationship of the volume and surface electronic properties was found. The mechanism of the action of impurities on these properties is apparently determined by the previous history of the sample. The observed dependence of the adsorptive capacity of zinc oxide relative to oxygen on the work function indicates the important role of the surface charge in the processes of adsorption and catalysis. Orig. art. has: 3 figures and 4 tables.

Card 1/2 UDC 546.47-31:621.315.592

L 8492-66

ACC NR: AP5026475 O

SUB CODE: 11 / SUB DATE: 27Jun64 / ORIG REF: 006 / OTH REF: 009

BVK
Card 2/2

GLAZUNOV, I.S.; KRYLOVA, E.A.

Study on the distribution of coronary insufficiency and hypertension in a group of Moscow employees. Kardiologiia 4 no.4: 42-47 Jl-Ag '64 (MIRA 19:1)

1. Institut terapii (direktor- deystvitel'nyy chlen AMN SSSR prof. A.L. Myasnikov) AMN SSSR, Moskva.

KRYLOVA, F.D.; SAKHATOV, Ya.

Organization of trachoma control in Iolotan District. Zdrav. Turk. 4 no.6:38-40 N-D '60. (MIRA 14:1)
(IOLOTAN DISTRICT—CONJUNCTIVITIS, GRANULAR)

KRYLOVA, F.D.

Control of trachoma in the Turmen S.S.R. and problems of its complete elimination. Zdrav. Turk. 7 no.6:3-8 Je '63.
(MIRA 16:8)

1. Glavnyy oftal'molog Ministerstva zdravookhraneniya Turkmenskoy SSR.
(TURKMENISTAN—CONJUNCTIVITIS, GRANULAR)

KRYLOVA, G. A.

"Chemical changes of the macromolecules of cellulose under activated oxidation by hypochlorite." Acad Sci USSR. Inst of Organic Chemistry imeni N. D. Zelinskiy. Moscow, 1956. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Knizhnaya letopis', No. 16, 1956

КРЫЛОВА, Г. А.

AUTHORS: Kaverzneva, Ye. D.; Ivanov, V. I.; Krylova, G. A. 62-1-17/21

TITLE: Chemical Conversions of Cellulose during Activated Oxidation with Hypochlorite (Khimicheskiye prevrashcheniya tsellyulozy pri aktivirovannom okislenii gipokhloritom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 122-122 (U.S.S.R.)

ABSTRACT: Investigation was conducted to determine the effect of an activated oxidation process on the chemical conversions of cellulose in the presence of hypochlorite. Using urea in the role of activator, it was found that the chemical changes in the cellulose macromolecule during activated oxidation with hypochlorite have exactly the same character as during oxidation without activator. Activated oxidation is accompanied by a smaller drop in the degree of polymerization than non-activated oxidation. It was established that activators only

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Chemical Conversions of Cellulose during Activated Oxidation with Hypochlorite

accelerate all oxidation processes. The difference in the final results namely, smaller drop in polymerization and greater whiteness of the cellulose at a uniform degree of oxidation, is explained by the kinetic conditions of the activated and nonactivated reactions and also by the equal degree of acceleration of cellulose oxidation.

Tables, graphs. There are 4 references, 3 of which are Slavic.

ASSOCIATION: Academy of Sciences of the USSR, Institute of Organic Chemistry imeni N. D. Zelinskiy

PRESENTED BY:

SUBMITTED: October 12, 1956

AVAILABLE: Library of Congress

5(2)

AUTHORS: Zakharov, B. A., Ivanov, V. I., Krylova, G. A., V'yunova, N. G.

SOV/20-122-5-18/56

TITLE: Molecular Homogeneity and Properties of Cellulose (Molekulyarnaya gomogennost' i svoystva tsellyulozy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5, pp 814 - 816 (USSR)

ABSTRACT: For some time the opinion was prevalent that the molecular weight of cellulose as a highly molecular compound (Refs 1-4) amounted to about 500 000 (Ref 5). However, viscosimetric measurements and the retardation of oxydative degradation yielded a figure of about 1, 600 000 for this weight (Refs 6-8). Recently this was confirmed (Refs 9-11). As early as 1939, strange and hardly explicable observations were made (Refs 12-13): the properties of strength of the natural cellulose fibres became obvious in a solid state at an average molecular weight($\overline{M}$) of about 32 000 and increase rapidly with an increase of $\overline{M}$ up to 113 000; then the increase of strength is

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constantly reduced up to 160 000 above which it remains constant. Furthermore it was discovered that cellulose is heterogeneous with respect to the length of chain molecules (Refs 14, 15). Therefore that above figure of molecular weight must be considered as an average value depending undoubtedly on the method of measuring. A general idea of the heterogeneity of cellulose is offered by the average coefficient of heterogeneity

$\overline{U} = \frac{\overline{M}_{weight}}{\overline{M}_{num}} - 1$, in which $\overline{M}_{weight}$ and $\overline{M}_{num}$ are the molecular weights; average by weight and numerical average, respectively. In modern studies the heterogeneity of cellulose is described more completely and more accurately by means of functions of integral and differential calculus (Ref 16). At present some tests are conducted in order to estimate the changes in heterogeneity in different processes of solution and production and to combine the heterogeneity

with the quality of the cellulose products. This, however, was rather complicated and afforded little hope of success. The authors wanted to tackle the task of specifying the problem of chain molecule length. The more precise concept and meaning of homogeneity of cellulose served them well in this work. According to their opinion, two characteristics of homogeneity, which can be determined on the curve of mass distribution, are of decisive importance; a) the degree of homogeneity (mono-dispersion), which expresses the physical nature of the phenomenon. This characteristic is defined by the height and basis of the maximum on the curve. b) the other characteristic is determined by the degree of polymerization(P), which corresponds to the maximum. As a consequence, the super-molecular structure of cellulose (opposite position of molecules and inter-molecular bonds) can and must be determined by the degree of molecular homogeneity. The authors proved this in experiments.

 Nitric ethers produced from cellulose in finished

products were fractioned according to the method of precipitation (Ref 18). Examples are given and explained by means of curves (Fig 1, curves 1-4). There are 1 figure and 19 references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im.N.D.Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N.D. Zelinskiy of the Academy of Sciences USSR)

PRESENTED: June 3, 1958, by P.A.Rebinder, Academician

SUBMITTED: May 25, 1958

5(3)

AUTHORS: Ivanov, V. I., Zakharov, B. A., Krylova, G. A., V'yunova, N. G.

SOV/20-123-4-32/53

TITLE: A Chemical Method of Homogenizing Cellulose With Respect to Molecular Weight (Khimicheskiy metod gomogenizatsii tsellyulozy po molekulyarnomu vesu)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4, pp 691 - 692 (USSR)

ABSTRACT: In an earlier report by the authors (Ref 1) their theoretical ideas that the strength of the cellulose products is closely connected with the homogeneity of the cellulose with respect to the length of the chain molecules, was proved. From the data in publications it may be concluded that during the individual production stages (Refs 3-6) no considerable homogeneity of cellulose is obtained. The authors have investigated the absorption of acids by cellulose from aqueous solution. Cotton cellulose was used for these experiments as well as chemical (sulfate) wood pulp. It was treated with HNO_3 (concentration 0.2 n at 92°) (cotton cellulose for 1 hour,

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chemical wood pulp for half an hour). Furthermore the cotton cellulose was treated under the same conditions with ECl. Figures 1 and 2 show the results obtained: the cotton cellulose (Fig 1, Curves 1 and 2) is to a large extent heterogeneous with respect to its molecular weight. The treatment of cotton cellulose led to a degradation of long chain molecules with a definite homogenization (Curve 4), whereas the effect of nitric acid was accompanied by a considerable homogenization (Curve 3). The treatment of the sulfate chemical wood pulp according to the method of the institute (IOKh AS USSR) mentioned under Association leads to a physical-chemical homogenization of the cellulose. The maximum on the mass distribution curve is at P= 850 (Fig 2, Curve 2). HNO_3 causes the displacement of this maximum into the low-molecular range, i.e. P= 220. The results obtained make it possible to draw the conclusion that HNO_3 may be used for the homogenization mentioned in the title. The high degree of homogenization can be reached at a desired degree of polymerization by the selection of the conditions of the combined physico-chemical homogenization (concentration, temperature, duration). Thus,

A Chemical Method of Homogenizing Cellulose With Respect to Molecular Weight SOV/20-123-4-32/53

an appropriate strength of various cellulose products can be obtained. There are 2 figures and 11 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy Academy of Sciences, USSR)

PRESENTED: July 11, 1958, by V. A. Kargin, Academician

SUBMITTED: June 20, 1958

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ZAKHAROV, B.A.; IVANOV, V.I.; KRYLOVA, G.A.

Homogeneity of cellulose according to its molecular weight and its importance in manufacturing strong fibers. Khim.volok. no.3: 32-35 '59. (MIRA 12:11)

1. Institut organicheskoy khimii AN SSSR.
(Cellulose) (Textile fibers, Synthetic)

5(3) SOV/62-59-5-38/40

AUTHORS: Ivanov, V. I., Zakharov, B. A., Trukhtenkova, N. Ye., Krylova, G. A.

TITLE: Letters to the Editor (Pis'ma redaktoru)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, p 949 (USSR)

ABSTRACT: In earlier papers (Refs 1-3) the authors had shown that the strength of a hydrated cellulose fiber may be determined mainly from the homogeneity of the molecular weight of the cellulose. Accordingly, the molecular homogeneity of bleached sulfite paper with known strength characteristics was investigated after a single deformation (double folding). Papers of the type A, and papers made by the firms Aane and Serlakius were investigated. The mass distribution function in dependence on the degree of polymerization is represented by a figure for the various types of paper. Investigations showed that, in order to attain a high degree of strength, a very homogeneous cellulose in the range of polymerization above 2000 is necessary. This may be attained by using a cellulose for paper production,

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which was obtained by means of the chloride of potash method, or by homogenizing the cellulose by means of nitrohydrochloric acid. There are 1 figure and 3 Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: February 2, 1959

5(1,3) SOV/2o-127-2-45/7o

AUTHORS: Zakharov, B. A., Ivanov, V. I., Krylova, G. A.

TITLE: The Homogenization of Cellulose With Respect to Molecular Weight in the Process of Bleaching by Activated Oxidation

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 396 - 397 (USSR)

ABSTRACT: The results obtained by the authors and the data given in the publications show that the usual chemical methods of cellulose working to hydrate cellulose fibers are not able to guarantee the production of highly solid structural-homogeneous fibers. Although the processes used change, as a rule, the heterogeneity of the molecular weight, they do not cause a considerable homogeneity of cellulose. Therefore it became a topical object to estimate the mentioned processes from the point of view of the change in homogeneity and to change these processes in the necessary direction. The treatment of cotton- as well as of wood cellulose with diluted nitric acid causes a far-reaching homogeneity (Ref 3). In contrast to this, a modification

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of the usual factors alone is not successful (Ref 4). From figure 1 follows that the usual bleaching of the sulphite cellulose of wood only reduces the homogeneity (Ref 5). In this connection it was interesting to modify the oxidation process upon which the bleaching with sodium hypochlorite is based. Therefore the authors investigated the topic mentioned in the title. Urea served as activator. The cellulose preparations of G. A. Krylova (Ref 6) were investigated. The figure 2:3 shows the distribution of the molecular weight of the sulphate cellulose which served, partly bleached and refined with alkali, as initial cellulose. The figure 2:1 shows that no homogenization proceeds if sodium hypochlorite influences this cellulose. A considerable specific homogenization is, in contrast to this, obtained, if the activated oxidation is used (preliminary treatment of the cellulose with urea) and the cellulose treated with hypochlorite oxidized after that. The above homogenization is bound to be connected with the increased accessibility of the long chain molecules for the oxidizing agent if the duration of the activated oxidation amounts to only 1/10 of the usual one, and the content of carbonyl- and carboxyl groups in the bleached

celluloses is on the whole equal (Ref 6). The specific degradation proceeding here increases the quantity of the molecules with the polymerization degree 800. It may therefore be expected that the use of catalysts or activators will establish conditions which guarantee a specific degradation and increase of the homogeneity of cellulose with respect to its molecular weight in several chemical working processes of cellulose materials and in their working to hydrate cellulose fibers.There are 2 figures and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

PRESENTED: March 21, 1959, by P. A. Rebinder, Academician

SUBMITTED: March 9, 1959

ZAKHAROV, B.A.; IVANOV, V.I.; MAL'TSEVA, A.L.; KRYLOVA, G.A.

Controlling the specificity of cellulose homogeneity by means of temperature in the course of treatment with dilute nitric acid. Izv. AN SSSR.Otd.khim.nauk no.5:926-927 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cellulose)

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B004/B064

AUTHORS: Kamenskiy, I. V., Sanin, I. K., Itinskiy, V. I., Krylova, G. D.

TITLE: Polymers on the Basis of Reaction Products of Furfurole With Diacetone Alcohol and Boron-containing Ester of Diacetone Alcohol

PERIODICAL: Plasticheskiye massy, 1960, No. 5, pp. 15 - 17

TEXT: The authors proceed from joint investigations of the MKhTI im. Mendeleyeva (Moscow Institute of Chemical Technology imeni Mendeleyev) and NIIPM (Scientific Research Institute of Plastics) which showed (Refs. 5, 6) that the reaction of furfurole with compounds containing ketone groups yields monomers which are transformed into heat-resistant polymers under the action of heat. This investigation aims at studying the effect of the presence of boron upon the heat resistance of these polymers. First, the condensation of furfurole with diacetone alcohol is described. The molar ratio of the two components was 1:1, and condensation was conducted in the presence of 2 % NaOH as catalyst. The yield in resin was 65 - 70 %. When heated to 200°C without hardener, the resin became

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